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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,093	10/23/2001	Arnfried Kiermeier	XP-0951	9662
21013	7590	04/09/2004	EXAMINER	
AGFA CORPORATION LAW & PATENT DEPARTMENT 200 BALLARDVALE STREET WILMINGTON, MA 01887			YAM, STEPHEN K	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/004,093	KIERMEIER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Stephen Yam	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 26-28 is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-25 and 29-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to Amendments and remarks filed on November 14, 2003. Claims 1-35 are currently pending.

#### ***Drawings***

1. Replacement drawings were received on January 21, 2004.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 4B, 4C, 4D (Fig. 1), 16A, 16B (Fig. 4). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 29-31 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Jakul et al. US Patent No. 6,097,475.

Art Unit: 2878

Regarding Claim 29, Jakul et al. teach (see Fig. 7A) a system for detecting an edge of imagable media (144B<sub>1</sub>) mounted on a media support surface (surface of (162) where media (144B<sub>1</sub>) enters) of an imagesetter or a platesetter (see Col. 1, lines 16-20), the system comprising a light source (within (706)) (see Col. 9, lines 31-34) that directs light toward the media support surface and the imagable media, a light sensor (within (706)) (see Col. 9, lines 34-42) for detecting reflected light originating from said light source that is returning from the media support surface or the imagable media, at least one groove (between protrusions on media support surface such as 660A-660D), formed in the media support surface, opposite the light source, that prevents light from said light source from being reflected towards said light sensor (since the light sensor detects reflected light only when the media is present-see Col. 9, lines 37-42), wherein said light sensor provides a signal having different levels corresponding to said imagable media and said groove (since an electrical signal is only generated when the light sensor detects light reflected from the plate- see Col. 9, lines 34-42).

Regarding Claim 30, Jakul et al. teach (see Fig. 7A) said media support surface as a drum (156) (see Col. 7, lines 1-3).

Regarding Claim 31, Jakul et al. teach (see Fig. 2 and 7A) said at least one groove formed parallel to a longitudinal axis (210) of said drum.

Regarding Claim 34, Jakul et al. teach (see Fig. 2 and 7A) said media support surface as a drum (156) (see Col. 7, lines 1-3) and said at least one groove extending along the entire length of the portion of said drum operative to support said imagable media (see Fig. 6).

Art Unit: 2878

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 12, 13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kipphan et al. US Patent No. 4,976,545 in view of Bowen et al. US Patent No. 4,687,943.

Regarding Claims 1, 12, 16, and 17, Kipphan et al. teach a system and apparatus comprising an external drum/platesetter (11) for supporting an unimaged printing plate (1) and a moveable assembly (3) (see Col. 5, lines 32-35) comprising a light source (9) directing light generally normal to said drum and a light sensor (6) for detecting reflected light originating from said light source. Regarding Claim 17, Kipphan et al. teach the support surface as an external surface of a drum. Kipphan et al. do not teach at least one groove formed said drum/platesetter for preventing light from said light source from being reflected towards said light sensor. Bowen et al. teach (see Fig. 1A and 4) a system for detecting the edge of a film comprising a drum/platesetter (12) for supporting a film (11), an assembly comprising a light source (31a,31b) and a light sensor (A,B,C in (50)) for detecting reflected light originating from said light source, and a groove (69) formed in said drum/platesetter for preventing light from said light source from being reflected towards said light sensor (see Col. 7, lines 13-17), wherein the groove has a geometric cross section for directing light from said source that is incident upon said at least one groove, away from said light sensor (see Col. 7, lines 13-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a groove in the

Art Unit: 2878

drum/platesetter as taught by Bowen et al. in the system of Kipphan et al., to provide improved detection of edge registration markings for printing-plate identification.

Regarding Claim 2, Kipphan et al. in view of Bowen et al. teach the system in Claim 1, according to the appropriate paragraph above. Kipphan et al. do not teach the light source directing light at an angle between 83 degrees and 90 degrees with respect to the drum. It is well known in the art to use various incidence angles of light on a surface to vary the reflection characteristics. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide light from the light source at an angle between 83 degrees and 90 degrees with respect to the drum in the system of Kipphan et al. in view of Bowen et al., to minimize the light spot on the surface of the printing plate to increase detection sensitivity.

Regarding Claims 13, Kipphan et al. in view of Bowen et al. teach the system in Claim 12, according to the appropriate paragraph above. Bowen et al. also teach the groove having a bottom surface (see Fig. 4). Kipphan et al. do not teach the bottom surface positioned at an angle of about 120 degrees from a first side of groove and positioned at an angle of about 60 degrees from a second side of the groove. It is well known in the art to vary the angle of a surface to change reflection characteristics of light incident on the surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to position the bottom surface at 120 degrees and 60 degrees from a first and second side of the groove, respectively, in the system of Kipphan et al. in view of Bowen et al., to provide different reflection characteristics to optimize the light absorption of the groove.

Regarding Claim 15, Kipphan et al. in view of Bowen et al. teach the system in Claim 1, according to the appropriate paragraph above. Kipphan et al. do not teach the light sensor

Art Unit: 2878

providing an electrical signal having at least two different voltage levels corresponding to detected light reflected from said plate and light reflected from said groove. Bowen et al. teach the light sensor providing an electrical signal (see Col. 7, lines 65-67) having two different voltage levels (0.5 volts vs. 0.1 volts) corresponding to detected light reflected from said plate (see Col. 7, line 65 to Col. 8, line 6) and light reflected from said groove (see Col. 8, lines 7-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an electrical signal having at least two different voltages levels corresponding to light reflected from said plate and from said groove as taught by Bowen et al. in the system of Kipphan et al. in view of Bohen et al., to distinguish markings/sprocket holes in the edge of the printing plate, as taught by Bohen et al. (see Col. 8, lines 8-11).

7. Claims 3-7, 10, 11, 18-20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kipphan et al. in view of Bowen et al. as applied to Claim 1, further in view of Schumann et al. US Patent No. 5,992,325.

Regarding Claims 3-5, 11, 18, 19, and 22, Kipphan et al. in view of Bowen et al. teach the system and apparatus in Claims 1, 16, and 17, according to the appropriate paragraph above. Regarding Claim 22, Bowen et al. also teach the groove has a geometric cross section for directing light from said source that is incident upon said at least one groove, away from said light sensor (see Col. 7, lines 13-17). Kipphan et al. do not teach the groove formed parallel to a longitudinal axis of the drum. Schumann et al. teach (see Fig. 1 and 3) a system for detecting an edge of a printing plate (8) comprising an external drum (5) for supporting the printing plate, an assembly with a light sensor (6) (see Col. 3, lines 42-44), and at least one groove (in (4)) formed

Art Unit: 2878

into said drum that prevents light from being transmitted towards light sensor (blocked by the insertion of printing plate- see Col. 6, lines 5-7, 15-17, and 55-58), wherein the groove is formed parallel to a longitudinal axis of said drum, extends along the entire length of the drum operative to support said plate, and is generally square and rectangular. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a groove formed parallel to a longitudinal axis of the drum as taught by Schumann et al. in the system of Kipphan et al. in view of Bowen et al., to also detect the leading or trailing edge of the printing plate and secure the printing plate to the drum.

Regarding Claim 6, Kipphan et al. in view of Bowen et al. and Shumann et al. teach the system in Claim 3, according to the appropriate paragraph above. Kipphan et al. do not teach a groove having a width between about 1mm and 2mm. It is well known in the art to use a groove width similar to the thickness of the printing plate, to fully secure the printing plate to the drum. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a groove width between about 1mm and 2mm in the system of Kipphan et al. in view of Bowen et al. and Shumann et al., to enable the system to accommodate printing plates having a thickness of about 1mm to 2mm and secure the printing plates to the drum.

Regarding Claim 7, 10, 20, and 25, Kipphan et al. in view of Bowen et al. and Shumann et al. teach the system and apparatus in Claims 3 and 19, according to the appropriate paragraph above. Regarding Claim 25, Shumann et al. teach the groove formed parallel to a long direction of said support surface (see Fig. 1)- also, since the claim language does not provide the support necessary for performing the detection of a skewed plate, the intended use of the groove cannot be given patentable weight. Kipphan et al. do not teach an antireflective layer disposed on a



Art Unit: 2878

portion of an inside surface of the groove for reducing the amount of light reflected from the inside of the groove. Bowen et al. teach an antireflective layer (see Col. 7, lines 16-17) disposed on a portion of an inside surface of the groove for reducing the amount of light reflected from the inside of the groove. Regarding Claim 10, Bowen teach the antireflective layer containing a chromophore having a peak absorption wavelength substantially the same as the light source (as black color equally absorbs light of all wavelengths). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an antireflective layer on a portion of an inside surface of the groove as taught by Bowen et al. in the system of Kipphan et al. in view of Bowen et al. and Shumann et al., to absorb light and create greater contrast between the groove and the printing plate.

Regarding Claims 23 and 24, Kipphan et al. in view of Bowen et al. and Shumann et al. teach the system and apparatus in Claim 22, according to the appropriate paragraph above. Bowen et al. also teach the groove having a bottom surface (see Fig. 4). Kipphan et al. do not teach the bottom surface positioned at an angle of about 120 degrees from a first side of groove and positioned at an angle of about 60 degrees from a second side of the groove. It is well known in the art to vary the angle of a surface to change reflection characteristics of light incident on the surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to position the bottom surface at 120 degrees and 60 degrees from a first and second side of the groove, respectively, in the apparatus of Kipphan et al. in view of Bowen et al. and Shumann et al., to provide different reflection characteristics to optimize the light absorption of the groove.

Art Unit: 2878

8. Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kipphan et al. in view of Bowen et al. and Schumann et al. as applied to Claims 7 and 20, further in view of Hamanaka US Patent No. 5,046,159.

Regarding Claim 8 and 21, Kipphan et al. in view of Bowen et al. and Shumann et al. teach the system and apparatus in Claims 7 and 20, according to the appropriate paragraph above. Kipphan et al. do not teach the antireflective layer selected from black velvet, black plush, black cloth, black paint, or black oxide. Hamanaka teaches (see Fig. 4a) a groove (32) with an antireflective layer from black paint to absorb light (see Col. 5, lines 25-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use black paint as the antireflective layer as taught by Hamanaka in the system and of Kipphan et al. in view of Bowen et al. and Shumann et al., to further reduce reflected light using ordinary and affordable materials and process.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kipphan et al. in view of Bowen et al. and Schumann et al. as applied to Claim 7, further in view of Onishi et al. US Patent No. 6,469,808.

Regarding Claim 9, Kipphan et al. in view of Bowen et al. and Shumann et al. teach the system and apparatus in Claim 7, according to the appropriate paragraph above. Kipphan et al. do not teach the antireflective layer as a black polymer. Onishi et al. teach (see Fig. 19) a groove (13') and an antireflective layer (4') as a black polymer (see Col. 8, lines 47-56) to prevent reflected light from reaching a light sensor (7'). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a black polymer as the antireflective

Art Unit: 2878

layer as taught by Onishi et al. in the system and apparatus of Kipphan et al. in view of Bowen et al. and Shumann et al., to provide an easily-manufactured layer for attachment to the groove.

10. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jakul et al. in view of Bowen et al.

Regarding Claim 33, Jakul et al. teach the system in Claim 29, according to the appropriate paragraph above. Jakul et al. also teach a roller (660A-660D) as forming an inside surface of the at least one groove (see Fig. 7). Jakul et al. do not teach the at least one groove further comprising an antireflective layer disposed on at least the portion of an inside surface of said at least one groove for reducing the amount of light reflected from the inside of said at least one groove. Bowen et al. teach (see Fig. 4) a similar device, with a roller (12) forming an inner surface of a groove (69), with an antireflective layer (black coloring) (see Col. 7, lines 16-17) on the roller for reducing the amount of light reflected from the inside of said groove ("void and non-reflecting surface"- see Col. 7, lines 13-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an antireflective layer disposed on the at least one portion of an inside surface of said at least one groove for reducing the amount of light reflected from the inside of said at least one groove, as taught by Bowen et al. in the system of Jakul et al., to enhance the edge detection abilities by increasing detection contrast between when a printing plate is present or absent.

11. Claims 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakul et al.

Regarding Claim 32, Jakul et al. teach the system in Claim 29, according to the appropriate paragraph above. Jakul et al. do not teach the width of said at least one groove as less than about 2 millimeters. It is well known in the art to arrange the placement of components in a system and/or to reduce the size of components to provide a more compact system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the width of the at least one groove as less than about 2 millimeters in the system of Jakul et al., as it has been held that a change in size or rearrangement of parts in a system involves only routine skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955), In re Japikse, 86 USPQ 70.

Regarding Claim 35, Jakul et al. teach the system in Claim 29, according to the appropriate paragraph above. Jakul et al. do not teach a movable assembly for moving said light source and said light sensor laterally across the media support surface opposite the at least one groove. It is well known in the art to provide adjustability in position for a reflection-type sensor, to allow for detection of different-width samples. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a movable assembly for moving the light source and light sensor laterally across the media support surface opposite the at least one groove in the system of Jakul et al., since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

***Allowable Subject Matter***

12. Claims 14 and 26-28 are allowed over the prior art of record.

13. The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claims 14 and 26, the invention as claimed, specifically in combination with two grooves diagonally across the drum both containing an antireflective layer on the inner surface, is not disclosed or made obvious by the prior art of record.

Regarding Claims 27 and 28, the method as claimed, specifically in combination with illuminating a portion of a groove with a light source, detecting the light reflected from the groove, detecting the light reflected from a printing plate, moving the light source along the groove, comparing the difference between the detected light levels to detect an edge of the printing plate, is not disclosed or made obvious by the prior art of record.

#### ***Response to Arguments***

14. Applicant's arguments filed November 14, 2003 have been fully considered but they are not persuasive.

Regarding Applicant's arguments with respect to an imagesetter or platesetter, Applicant argues that the Bowen patent is not directed towards an imagesetter or platesetter. Examiner asserts that there is no mention of imagesetter or platesetter in body of Applicant's claim, but the terminology only appears in the preamble of the claim. In fact, the claim body only appears to recite an external drum in contact with the printing plate, and it is unclear whether the external drum is intended to represent the imagesetter or platesetter. Therefore, since the imagesetter/platesetter is only mentioned in the preamble without any further support, the limitation is interpreted as simply providing intended use for the system or apparatus, and cannot

Art Unit: 2878

be given patentable weight. Since the body of the claim recites a drum for supporting the printing plate, and a drum exists in both the Kipphan and Bowen references, combination of the two references is proper for forming the rejection of the claims.

Applicant also argues that the Bowen system does not teach a movable assembly for the light source and light sensor, as recited in Claim 1. Examiner asserts that the teaching for the movable assembly is provided by the primary reference Kipphan, and the teachings of Bowen et al. are only used to satisfy the deficiencies of the groove in Kipphan in forming the rejection of Claim 1. Therefore, Examiner submits that Kipphan in combination with Bowen teach Applicant's invention as defined in the claim language.

Examiner also acknowledges that the claim numbers for dependencies for Claims 8, 9, and 21 in the initial Office Action were incorrect due to a typographical error and thanks Applicant for noting the discrepancy- however, the grounds of rejection with respect with the usage and combination of references in the initial Office Action were still correct and the claim numbers have been corrected in this Office Action.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2878

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571)272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LOU  
PATENT EXAMINER